

VALUE ADDED COURSE

Programme Code:	M.Sc.	Programme Title:	Mathematics	
Course Code:	23PMS2VA	Title	Batch:	2023 - 2025
Lecture Hrs./Week or Practical Hrs./Week	2	INTERNET OF THINGS	Semester:	II
			Credits:	2*

Course Objectives

This course highlights on physical design, logical design, enabling technologies of IoT, IoT system management and design methodology.

Course outcomes (CO)

At the end of this course, the students will be able to

CO Number	CO Statement	Knowledge Level
CO1	To understand the basics of Internet of Things and design of IoT	K1,K2
CO2	To learn the IoT Technologies	K2,K3
CO3	To learn IoT deployment Templates	K3,K4
CO4	To understand the design methodology and level specification of IoT	K3,K4,K5
CO5	To learn about the physical devices such as Raspberry Pi	K3,K5

Units	Content	Hrs.
Unit I	Introduction to Internet of Things: Introduction – Definition and Characteristics of IoT – Physical design of IoT – Things in IoT - IoT Protocols.	6
Unit II	Logical Design of IoT – IoT Functional Blocks – IoT communication Models – IoT Communication APIs – IoT Enabling Technologies – Wireless Sensor Networks – Cloud Computing –Big Data Analytics – Communication Protocols – Embedded Systems.	6
Unit III	IoT Levels and Deployment Templates: IoT Level 1 - IoT Level 2 - IoT Level 3 - IoT Level 4 - IoT Level 5 - IoT Level 6 – Case Study on IoT System for Weather Monitoring.	6
Unit IV	IoT Platform Design Methodology: Purpose and Requirement Specification – Process Specification – Domain Model Specification – Information Model Specification – Service Specification – IoT Level Specification – Functional View Specification – Operational View Specification – Device and Component integration – Application Development.	6
Unit V	IoT physical devices and End Points – IoT Devices – Exemplary Device: Raspberry Pi – About Board – Linux on Raspberry Pi – Raspberry Pi interfaces – Serial – SPI – I2C.	6
	Total Contact Hrs.	30

Text Book:

Arshdeep Bahga, Vijay Madiseti, Internet of Things – A hands on Approach, Orient Blackswan Private Limited, 2014 , 1st Edition


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